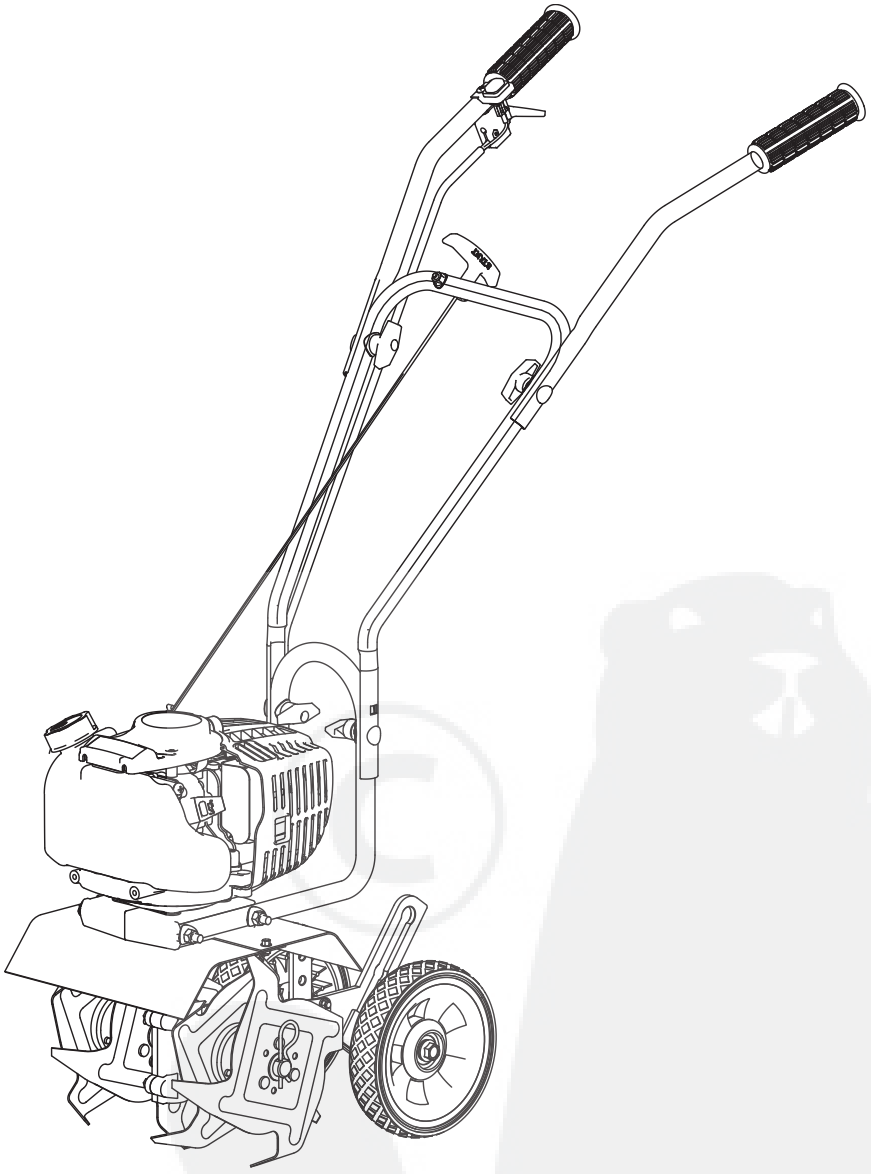
Earthquake™

Operator's Manual
Original Operating Instructions

MC440
4-Cycle Cultivator



Product #: MC440

Get parts online at
www.GetEarthquake.com

P/N: 13188
ECN: 9656
REV2: 12/12/12
© 2013 Ardisam, Inc.
All Rights Reserved

INTRODUCTION

Congratulations on your investment in quality. Thank you for purchasing a 4-cycle cultivator from Earthquake™. We have worked to ensure that the MC440 meets the highest standards for usability and durability. With proper care, your cultivator will provide many years of service.

Please read this entire manual before installation and use. Earthquake reserves the right to change, alter or improve the product and this document at any time without prior notice.

CONTENTS

Registration 2
Warnings and Safety Precautions 3-7
Features/Specifications 8
Unpacking and Assembly 9
Operation 10-13
Maintenance & Storage 13-16
Troubleshooting and Repair 16-17
Parts Breakdown 18-22
Declaration of Conformity 23
EK43 Border-Edger Kit Installation 24
DK43 Dethatcher Kit Installation 25
Warranty 26-27

FEDERAL EMISSIONS INFORMATION

Earthquake warrants to the retail purchaser, that this small, off-road engine was designed, built and equipped to conform at the time of initial sale to all applicable regulations of the U.S. Environmental Protection Agency (EPA).

REGISTRATION AND SERVICE

Record the engine model number and serial number in the space provided for easy reference when ordering parts or requesting technical support. Excluding emissions-related warranty items, the warranty is valid only if the completed registration is received by Ardisam within 30 days of purchase. **(SEE WARRANTY SECTION FOR MORE INFORMATION.)** You can register your warranty online by visiting www.getearthquake.com, or by mailing it to: Ardisam, 1160 Eighth Avenue, Cumberland, WI 54829. If you do not have a computer, call our customer service department at (800) 345-6007 Mondays through Fridays from 8 a.m. to 5 p.m. CST.

OWNERSHIP RECORDS		
Owner's Name:		
Owner's Address:		
City:	State/Province:	Zip Code/Postal Code:
Model Number:	Serial Number:	
Date of Purchase:		
Notes:		

This manual may contain information for several models. Read and keep this manual for future reference. This manual contains important information on SAFETY, ASSEMBLY, OPERATION, AND MAINTENANCE. The owner must be certain that all the product information is included with the unit. This information includes the MANUAL, the REPLACEMENT PARTS and the WARRANTIES. This information must be included to make sure state laws and other laws are followed. This manual should remain with the engine even if it is resold.

WARNINGS AND SAFETY PRECAUTIONS

OWNER'S RESPONSIBILITY

Accurate assembly and safe and effective use of the machine is the owner's responsibility.

- Read and follow all safety instructions.
- Carefully follow all assembly instructions.
- Maintain the machine according to directions and schedule included in this Earthquake operator's manual.
- Ensure that anyone who uses the machine is familiar with all controls and safety precautions.

SPECIAL MESSAGES

Your manual contains special messages to bring attention to potential safety concerns, machine damage as well as helpful operating and servicing information. Please read all the information carefully to avoid injury and machine damage.

NOTE: General information is given throughout the manual that may help the operator in the operation or service of the machine.

This symbol points out important safety instructions which if not followed could endanger your personal safety. Read and follow all instructions in this manual before attempting to operate this equipment.

BEFORE OPERATING ENGINE:

Please read this section carefully. Read entire operating and maintenance instructions for this product. Failure to follow instructions could result in serious injury or death. Operate the machine according to the safety instructions outlined here and inserted throughout the text. Anyone who uses this machine must read the instructions and be familiar with the controls.

CE Intended Use / Foreseeable Misuse

IMPORTANT: This is a motorized rotary cultivator that works the soil by means of rotating tines. It is pedestrian-controlled, but not self-propelled, with a gasoline-fueled internal combustion engine to power the tines. It shall not be used for any other purpose.

⚠ WARNING

WARNING INDICATES A HAZARD WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY AND/OR PROPERTY DAMAGE.

⚠ CAUTION

CAUTION INDICATES YOU CAN BE HURT OR YOUR EQUIPMENT DAMAGED IF THE SAFETY INSTRUCTIONS THAT FOLLOW THIS SIGNAL WORD ARE NOT OBEYED.

⚠ IMPORTANT

INDICATES HELPFUL INFORMATION FOR PROPER ASSEMBLY, OPERATION, OR MAINTENANCE OF YOUR EQUIPMENT.

⚠ WARNING

CALIFORNIA PROPOSITION 65 WARNING

ENGINE EXHAUST FROM THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM.

⚠ WARNING

YOU MUST READ, UNDERSTAND AND COMPLY WITH ALL SAFETY AND OPERATING INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO SETUP AND OPERATE YOUR MACHINE.

FAILURE TO COMPLY WITH ALL SAFETY AND OPERATING INSTRUCTIONS CAN RESULT IN LOSS OF MACHINE CONTROL, SERIOUS PERSONAL INJURY TO YOU AND/OR BYSTANDERS, AND RISK OF EQUIPMENT AND PROPERTY DAMAGE. THE TRIANGLE IN THE TEXT SIGNIFIES IMPORTANT CAUTIONS OR WARNINGS WHICH MUST BE FOLLOWED.

⚠ DANGER

GENERAL SAFETY RULES

- Read, understand, and follow all instructions on the machine and in the manual(s). Be thoroughly familiar with the controls and the proper use of the machine before starting.
- Use this equipment for its intended purpose only.
- Familiarize yourself with all of the safety and operating decals on this equipment and on any of its attachments or accessories.
- Do not put hands or feet near or under rotating parts.
- Only allow responsible individuals who are familiar with the instructions to operate the machine. Do not allow children to operate this machine. Do not allow adults to operate the machine without proper instruction.
- Thoroughly inspect the area where the machine is to be used and remove all foreign objects. Your equipment can propel small objects at high speed causing personal injury or property damage. Stay away from breakable objects, such as house windows, automobiles, greenhouses, etc.
- Wear appropriate clothing such as a long-sleeved shirt or jacket. Also wear long trousers or slacks. Do not wear shorts. Never wear sandals, sneakers or open shoes, and never operate the machine with bare feet.
- Do not wear loose clothing or jewelry. They can get caught in moving parts. Always keep hands, feet, hair and loose clothing away from any moving parts on engine and machine.
- Always wear safety goggles or safety glasses with side shields when operating the machine to protect your eyes from foreign objects which can be thrown from the unit. Always wear a protective hearing device.
- Always wear work gloves and sturdy footwear. Wear footwear that will improve footing on slippery surfaces. Leather work shoes or short boots work well for most people. These will protect the operator's ankles and shins from small sticks, splinters, and other debris.
- It is advisable to wear protective headgear to prevent the possibility of being struck by small flying particles, or being struck by low hanging branches, twigs, or other objects which may be unnoticed by the operator.
- Do not operate the machine without proper guards or other safety protective devices in place.
- See manufacturer's instructions for proper operation and installation of accessories. Only use accessories approved by the manufacturer.
- Operate only in daylight or good artificial light.
- Do not operate product when fatigued or under the influence of alcohol, drugs or other medication which can cause drowsiness or affect your ability to operate this machine safely.
- Never operate machine in wet grass. Always be sure of your footing; keep a firm hold on the handle and walk; never run.
- Watch for traffic when operating cultivator near, or when crossing roads.
- If the equipment should start to vibrate abnormally, stop the engine (motor), flip the ON/OFF switch to the **OFF** position. Check immediately for cause. Vibration is generally a warning of trouble. If the noise or vibrations of the machine increase, stop immediately and perform an inspection.
- Never leave the machine unattended when the engine is running. Flip the ON/OFF switch to the **OFF** position.
- Regularly inspect the machine. Make sure parts are not bent, damaged or loose.
- Temperature of muffler and nearby areas may exceed 150° F (65° C). Allow muffler and engine areas to cool before touching. Never pick up or carry the machine while the engine is running.
- Prolonged exposure to noise and vibration from gasoline engine-powered equipment should be avoided. Take intermittent breaks and/or wear ear protection from engine noise as well as heavy work gloves to reduce vibration in the hands.
- Keep all screws, nuts and bolts tight.
- Do not transport the machine from one place to another with the engine running.
- When moving the packaged machine, always do so with a partner.
- Check local regulations for age restrictions on use of this machine.

PRODUCT-SPECIFIC SAFETY RULES

- Do not cultivate above underground utilities, including water lines, gas lines, electric cables, or pipes. Do not operate the machine on terrain/soil with large rocks and foreign objects which can damage the equipment.
- After striking a foreign object, stop the engine. Flip the ON/OFF switch to the **OFF** position. Inspect the machine for damage. If damaged, repair before starting and operating the machine.
- The tines of the cultivator should not rotate when the engine is idling. If it does rotate when engine is idling, contact Earthquake customer service for instruction.
- If an object becomes lodged in the tines, flip the ON/OFF switch to the **OFF** position, allow to cool before attempting to remove the foreign object.
- The clutch will transfer maximum power after about two hours of normal operation. During this break-in period clutch slippage may occur. The clutch should be kept free of oil or other moisture for efficient operation.

ENGINE SAFETY PRECAUTIONS

Warning Carbon Monoxide Poisoning

Engines give off carbon monoxide, an odorless, colorless, poisonous gas. Carbon monoxide may be present even if you do not smell or see any engine exhaust. Breathing carbon monoxide can cause nausea, fainting or death, in addition to drowsiness, dizziness and confusion. If you experience any of these symptoms, seek fresh air and medical attention immediately.

If your product comes with a separate engine manual, be sure to read and follow all safety and warning precautions outlined there, in addition to any in this manual.

Preventing Carbon Monoxide Poisoning

- Always start and run engine outdoors. Do not start or run engine in an enclosed area, even if doors or windows are open.
- Never try to ventilate engine exhaust indoors. Carbon monoxide can reach dangerous levels very quickly.
- Never run engine outdoors where exhaust fumes may be pulled into a building.
- Never run engine outdoors in a poorly ventilated area where the exhaust fumes may be trapped and not easily taken away. (Examples include: in a large hole or areas where hills surround your working area.)
- Never run engine in an enclosed or partially enclosed area. (Examples include: buildings that are enclosed on one or more sides, under tents, car ports or basements.)
- Always run the engine with the exhaust and muffler pointed in the direction away from the operator.
- Never point the exhaust muffler towards anyone. People should always be many feet away from the operation of the engine and its attachments.
- Do not change the engine governor settings or over-speed the engine.

Gasoline Fires and Handling Fuel Safely

Use extra care in handling gasoline and other fuels. They are flammable and vapors are explosive.

- When storing extra fuel be sure that it is in an appropriate container and away from any fire hazards.
- Prevent fire and explosion caused by static electric discharge. Use only nonmetal, portable fuel containers approved by the Underwriter's Laboratory (U.L.) or the American Society for Testing & Materials (ASTM).
- Always fill fuel tank outside in a well ventilated area. Never fill your fuel tank with fuel indoors. (Examples include: basement, garage, barn, shed, house, porch, etc.) Never fill tank near appliances with pilot lights, heaters, or other ignition sources. If the fuel has to be drained, this should be done outdoors. The drained fuel should be stored in a container specifically designed for fuel storage or it should be disposed of carefully.
- Never remove the fuel cap or add fuel with the engine running. Stop engine and allow to cool before filling.
- Do not smoke.
- Never drain fuel from engine in an enclosed area.
- Always wipe up excess (spilled) fuel from engine before starting. Clean up spilled fuel immediately. If fuel is spilled, do not start the engine but move product and fuel container from area. Clean up spilled fuel and allow to evaporate and dry after wiping and before starting.
- Allow fuel fumes/vapors to escape from the area before starting engine.
- Test the fuel cap for proper installation before starting and using engine.
- Always run the engine with fuel cap properly installed on the engine.
- Never smoke while refilling engine fuel tank.
- Do not store engine with fuel in fuel tank indoors. Fuel and fuel vapors are highly explosive.

⚠ WARNING

ENGINES GIVE OFF CARBON MONOXIDE, AN ODORLESS, COLORLESS, POISONOUS GAS. CARBON MONOXIDE MAY BE PRESENT EVEN IF YOU DO NOT SMELL OR SEE ANY ENGINE EXHAUST. BREATHING CARBON MONOXIDE CAN CAUSE NAUSEA, FAINTING OR DEATH, IN ADDITION TO DROWSINESS, DIZZINESS AND CONFUSION.

IF YOU EXPERIENCE ANY OF THESE SYMPTOMS, SEEK FRESH AIR AND MEDICAL ATTENTION IMMEDIATELY.

⚠ CAUTION

HOT GASES ARE A NORMAL BY-PRODUCT OF A FUNCTIONING INTERNAL COMBUSTION ENGINE. FOLLOW ALL SAFETY INSTRUCTIONS TO PREVENT BURNS AND FIRES.

DO NOT ALTER/MODIFY ENGINE:

NEVER ALTER OR MODIFY THE ENGINE FROM THE FACTORY. SERIOUS INJURY OR DEATH MAY OCCUR IF ENGINE IS MODIFIED OR ALTERED.

WHEN WORKING ON OR REPLACING PARTS FOR THE ENGINE OR PRODUCT, YOU MUST ALWAYS FLIP THE ON/OFF SWITCH TO THE OFF POSITION.

- Never pour fuel from engine fuel tank.
- Never siphon fuel by mouth to drain fuel tank.
- Always have an adult fill the fuel tank and never allow children to fill the engine.
- Never allow an adult or anyone under the influence of drugs or alcohol to fill engine.
- When storing gasoline or equipment with fuel in the tank, store away from furnaces, stoves, water heaters or other appliances that have a pilot light or other ignition source because they can ignite gasoline vapors.

BURNS AND FIRES

The muffler, muffler guard and other parts of the engine become extremely hot during the operation of the engine. These parts remain extremely hot after the engine has stopped.

Prevention of Burns and Fires

- Never remove the muffler guard from the engine.
- Never touch the muffler guard because it is extremely hot and will cause severe burns.
- Never touch parts of the engine that become hot after operation.
- Always keep materials and debris away from muffler guard and other hot parts of the engine to avoid fires.

CHILDREN AND BYSTANDERS

Tragic accidents can occur if the operator is not alert to the presence of children and/or bystanders. Never assume that others will remain where you last saw them.

- Keep the area of operation clear of all persons, especially small children and pets. Keep children under the watchful care of a responsible adult.
- Be alert and turn machine off if children enter the area.
- Before and while moving backwards, look behind and down for small children.
- Never allow children to operate the machine.
- Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

SERVICE

- Always stop the engine whenever you leave the equipment, before cleaning, repairing or inspecting the unit. Engine should be turned off and cool. Never make adjustments or repairs with the engine (motor) running. Flip the ON/OFF switch to the **OFF** position to prevent accidental starting.
- Always wear eye protection when you make adjustments or repairs.
- Keep all nuts and bolts tight and keep equipment in good condition.
- Never tamper with safety devices. Check their proper operation regularly.
- When servicing or repairing the machine, do not tip the machine over or up unless specifically instructed to do so in this manual. Service and repair procedures can be done with the machine in an upright position. Some procedures will be easier if the machine is lifted on a raised platform or working surface.
- To reduce fire hazard, keep machine free of grass, leaves or other debris build-up. Clean up oil or fuel spillage. Allow machine to cool before storing.
- Stop and inspect the equipment if you strike an object. Repair, if necessary, before restarting.
- Clean and replace safety and instruction decals as necessary.
- To guard against engine over-heating, always have engine debris filter mounted and clean.
- Inspect machine before storage. When not in use, flip the ON/OFF switch to the **OFF** position and store indoors in a dry place locked or otherwise inaccessible to children.
- Use only original equipment parts from Earthquake, including all nuts and bolts.

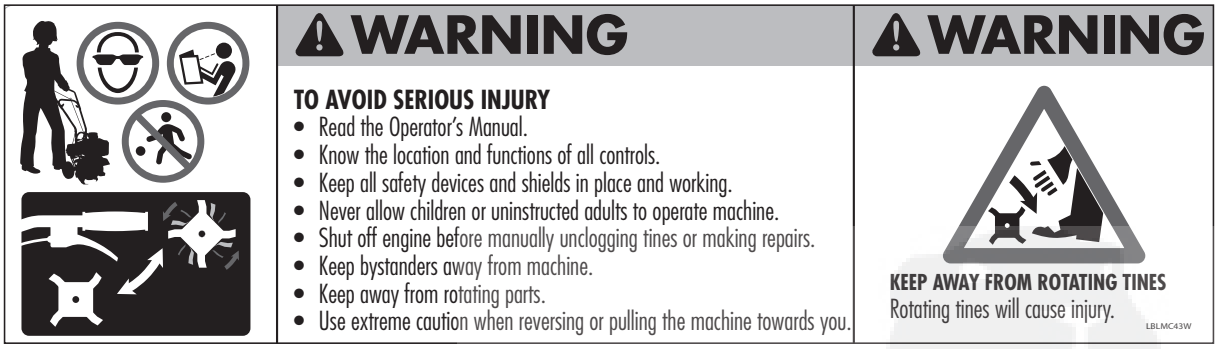
SAFETY DECALS

This MC440 cultivator has been designed and manufactured to provide you with the safety and reliability you would expect from an industry leader in outdoor power equipment manufacturing.

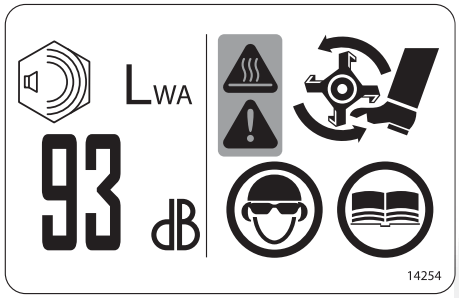
Reading this manual and the safety instructions it contains will provide you with the necessary basic knowledge to operate this equipment safely and effectively. We have placed a safety decal on the cultivator to remind you of some of this important information while you are operating the unit.

These important safety decals are illustrated below, and are shown here to help familiarize you with the location and content of the safety messages you will see as you perform normal cultivating operations. Please review these decals now, and if you have any questions regarding its meaning or how to comply with these instructions, reread the complete safety instruction text in this manual. For additional questions European customers may contact their local dealer and US customers must call Earthquake customer service.

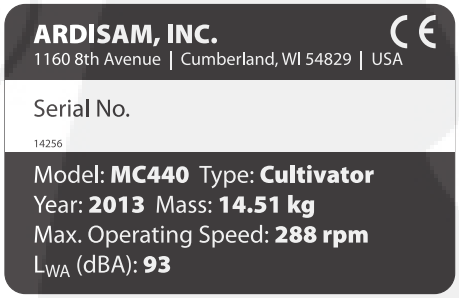
Should a decal become unreadable because of being worn, faded, or otherwise damaged during the use of your MC440, please use the part number information provided to order a replacement label. European customers can order from their local authorized dealer and US customers can order by calling Earthquake customer service. These decals are easily applied, and will act as a constant visual reminder to you, and others who may use the equipment, to follow the safety instructions necessary for safe, effective operation of your cultivator.


WARNING
TO AVOID SERIOUS INJURY
• Read the Operator's Manual.
• Know the location and functions of all controls.
• Keep all safety devices and shields in place and working.
• Never allow children or uninstructed adults to operate machine.
• Shut off engine before manually unclogging tines or making repairs.
• Keep bystanders away from machine.
• Keep away from rotating parts.
• Use extreme caution when reversing or pulling the machine towards you.
WARNING
KEEP AWAY FROM ROTATING TINES
Rotating tines will cause injury.
LBLMC43W

Part No. LBLMC43W
Warning Decal MC440
Tine Shield Decal



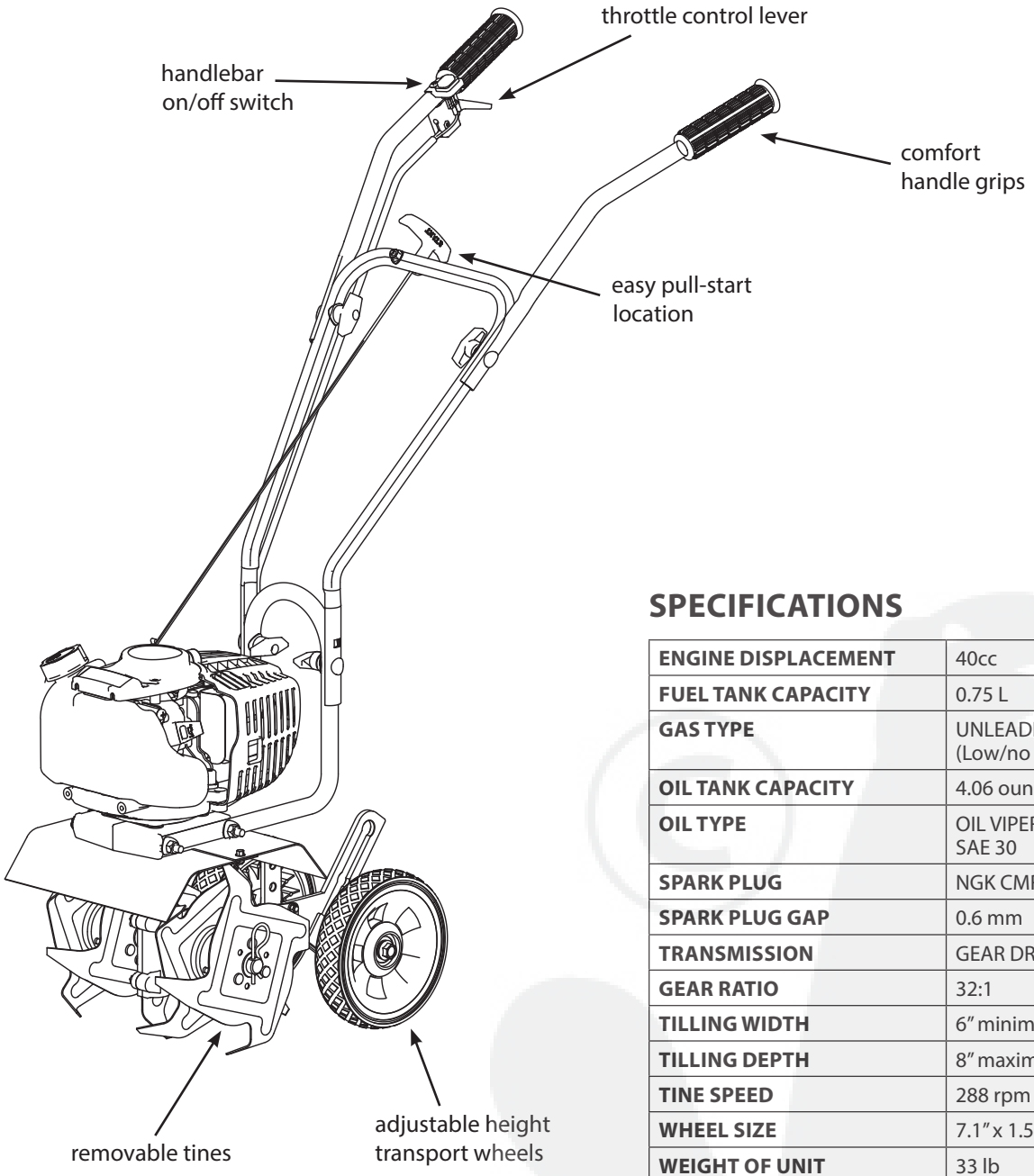
Part No. 14254
CE SPECIFIC WARNINGS
Decibel Level Decal



Part No. 14256
NAME PLATE DECAL

Part No. 14255
DECAL TINE SPEED

FEATURES



SPECIFICATIONS

ENGINE DISPLACEMENT	40cc
FUEL TANK CAPACITY	0.75 L
GAS TYPE	UNLEADED PREMIUM GAS (Low/no ethanol blends)
OIL TANK CAPACITY	4.06 ounces
OIL TYPE	OIL VIPER 4 CYCLE (p/n 13235) SAE 30
SPARK PLUG	NGK CMR6A
SPARK PLUG GAP	0.6 mm
TRANSMISSION	GEAR DRIVE
GEAR RATIO	32:1
TILLING WIDTH	6" minimum - 10" maximum
TILLING DEPTH	8" maximum
TINE SPEED	288 rpm
WHEEL SIZE	7.1" x 1.5" diameter
WEIGHT OF UNIT	33 lb
UNIT SIZE L x W x H (inches)	33.6" x 17.8" x 40.6"

UNPACKING AND ASSEMBLY

UNPACK MC440

1. Carefully lift the cultivator out of the box, remove any packing material and cut any ties holding the handlebar pieces to the cultivator assembly.
2. Find parts packet. Parts packet contains:

   4 - T-Handle Nuts (4640)

   4 - Curved Washers (4641)

   4 - Handle Clamp Bolts (4642)

ASSEMBLY

1. Stand the MC440 assembly upright with tines and wheels on a level surface. Wheels should be set in the lowest position. **DO NOT** place the cultivator on a high surface where it can fall and cause property damage or personal injury.
2. Using two T-handle nuts, two handle clamp bolts, and two curved washers, attach the middle handlebar to the lower handlebar that is already connected to the cultivator assembly. **SEE FIGURE 1.** The middle handlebar can be installed in one of two positions, one high and one low. **DO NOT** overtighten the T-handle nuts.
3. Attach the upper right and left handlebars to the middle handlebar using the two remaining T-handle nuts, handle clamp bolts, and curved washers. **SEE FIGURE 1.** **DO NOT** overtighten the T-handle nuts.
4. The drag stake is shipped with point facing upwards. Before using, remove detent pin and turn the drag stake around so the point is directed in the downward position facing towards the tines. Re-insert detent pin. **SEE FIGURE 2.**

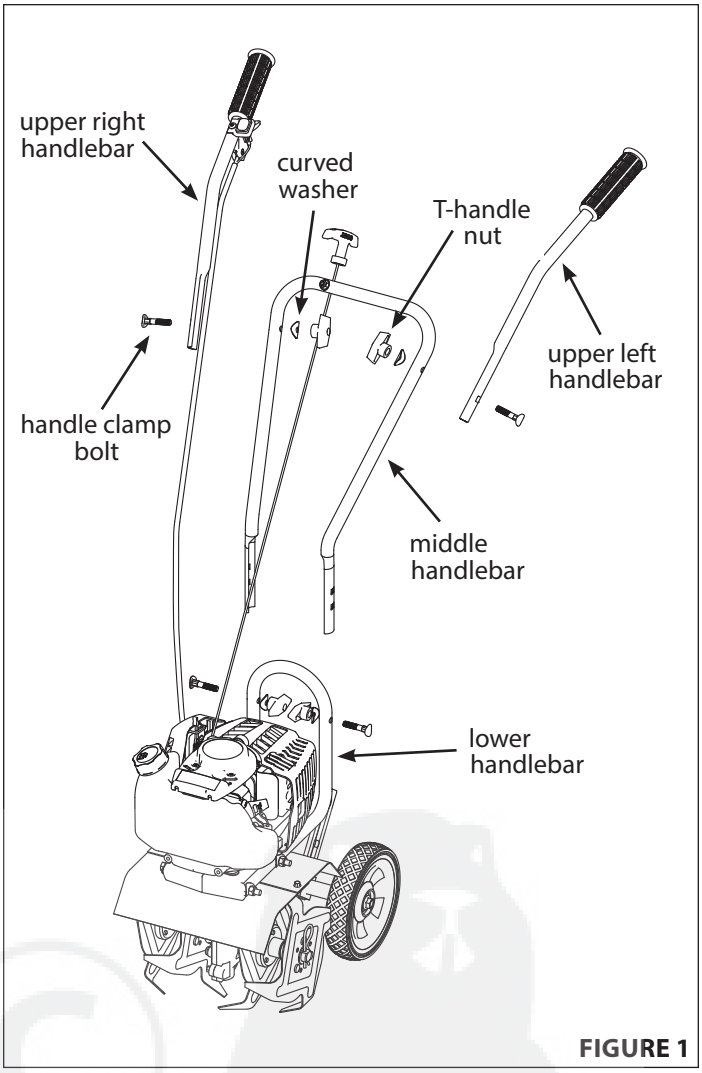


FIGURE 1

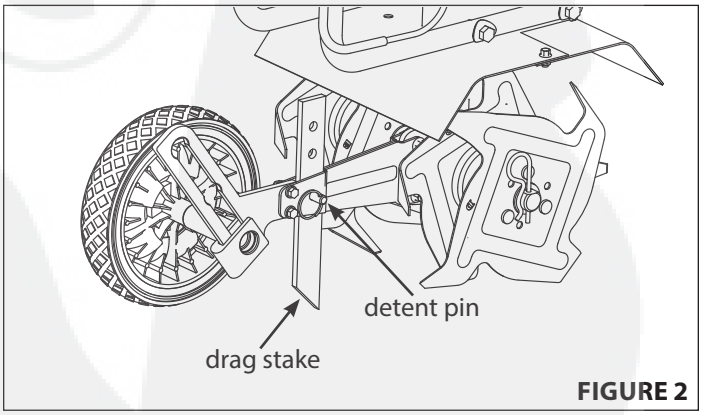


FIGURE 2

OPERATION

PREPARING ENGINE FOR STARTING

GAS AND OIL

NOTE: Engine is shipped from factory without oil. You must add engine oil before starting engine. If engine is started without oil, engine may be damaged beyond repair and will not be covered by warranty.

Quality

To operate the engine, we recommend using "VIPER" brand 4-cycle oil (13235), included with each new MC440, or an equivalent SAE 30 engine oil to ensure that the engine operates correctly throughout the life of the engine. Use straight unleaded premium gasoline, low/no ethanol blends recommended.

Filling Fuel Tank

1. Shut-off engine and allow engine to completely cool before refilling the fuel tank.
2. Move to a well ventilated area, outdoors, away from flames and sparks.
3. Clean debris from area around the fuel cap.
4. Loosen fuel cap slowly. Prevent the cap from coming in contact with dirt or debris.
5. Carefully add fuel without spilling.
6. Do not fill gas tank completely full, allow space for fuel to expand.
7. Immediately replace fuel cap and tighten. Wipe off spilled fuel and allow to dry before starting engine.

Checking and Adding Oil

Be sure the engine is located on a level surface before checking or refilling oil. Proper position for checking oil level or refilling oil is face down, with the gas tank of the MC440 down on a horizontal surface. **SEE FIGURE 3**

1. Clean around oil fill area.
2. Unscrew dipstick and wipe clean with cloth.
3. Reinsert dipstick (must be fully threaded for accurate reading).
4. Unscrew and check dipstick. If no oil shows on the dipstick, refill to the top thread of the oil fill hole.
5. Change oil if contaminated.

⚠ CAUTION

ENGINE IS SHIPPED FROM FACTORY WITHOUT OIL. YOU MUST ADD ENGINE OIL BEFORE STARTING ENGINE. IF ENGINE IS STARTED WITHOUT OIL, ENGINE MAY BE DAMAGED BEYOND REPAIR AND WILL NOT BE COVERED BY WARRANTY.

NEVER STORE ENGINE WITH FUEL IN THE TANK INDOORS. FUEL AND FUEL VAPORS ARE HIGHLY FLAMMABLE.

AN ADULT ONLY MUST ALWAYS HANDLE AND FILL THE ENGINE WITH FUEL.

ALWAYS HANDLE GAS IN A WELL VENTILATED AREA, OUTDOORS, AWAY FROM FLAMES OR SPARKS.

DO NOT START ENGINE IF FUEL IS SPILLED. WIPE OFF EXCESS FUEL AND ALLOW TO DRY. REMOVE ENGINE FROM AREA TO AVOID SPARKS.

⚠ IMPORTANT

DO NOT SPRAY WATER ON OR NEAR THE ELECTRONICS OF THE CULTIVATOR AS THIS MAY RESULT IN DAMAGE TO THE ELECTRICAL COMPONENTS.

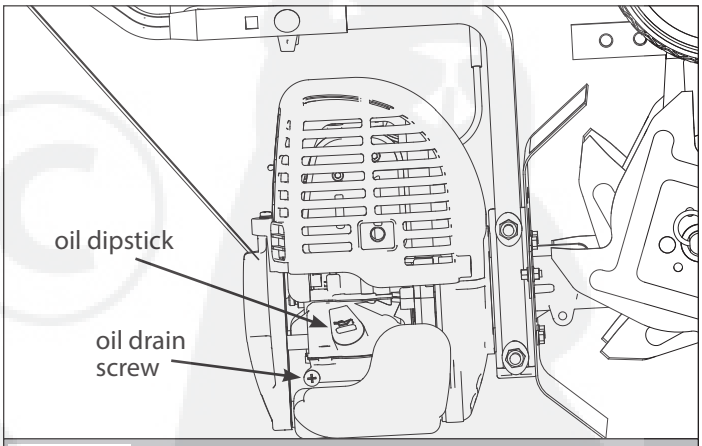


FIGURE 3 MC440 Tipped Forward on Level, Horizontal Surface

OPERATION TIPS

1. The clutch will transfer maximum power after about two hours of normal operation. During this break-in period clutch slippage may occur. The clutch should be kept free of oil and other moisture for efficient operation.
2. Cultivate without placing excessive body weight on the unit. The MC440 operates most efficiently with the weight of the unit itself.
3. Never run engine indoors. Exhaust fumes are deadly.

STARTING AND STOPPING ENGINE

- Move engine to a well ventilated area, outdoors, to prevent carbon monoxide poisoning.
- Move to an area away from flames or sparks, to avoid ignition of vapors if present.
- Remove all debris from air cleaner holes and gas cap to ensure proper air flow.
- If it is the first time starting the MC440, make sure the included 4-cycle oil has been poured into the oil fill area.

COLD ENGINE START:

Starting engine for first time or after engine has cooled off or after running out of fuel.

1. Move choke lever to **CHOKE** position. **SEE FIGURE 4**

   NOTE: CHOKE position is defined by moving the choke lever as far to the right, towards gas tank, as possible.

2. Prime unit until primer hose is filled with gas.

   NOTE: When using the primer bulb, allow the bulb to return completely to its original position between pushes.

3. Push **ON/OFF** switch to the **ON** position.
4. Hold handle bar firmly. Grasp starter handle and pull out slowly until it pulls slightly harder. Without letting starter handle retract, pull rope with a rapid full arm stroke. Let it return to its original position slowly. Repeat this step every time the starter rope is pulled until unit fires or runs.

   NOTE: If engine fails to start after 5-6 pulls, push primer 1 time and pull starter rope again.

5. After engine starts running, move choke lever to **HALF CHOKE** position until unit runs smoothly.

   NOTE: Half choke is defined when the choke lever is between CHOKE and RUN positions. SEE FIGURE 4

6. Move choke lever to **RUN** position and squeeze throttle to desired speed. **SEE FIGURE 4**

   NOTE: Run at full throttle when possible. Do not let unit idle for extended periods of time.

8. To stop engine, push **ON/OFF** switch to **OFF** position.

WARM ENGINE START:

1. Move choke lever to **CHOKE** position. **SEE FIGURE 4**
2. Continue with Step 3 of Cold Engine Starting.

HOT ENGINE START:

1. Begin with Step 3 of Cold Engine Starting.
2. If engine does not fire, refer to Step 1 of Warm Engine Starting.

⚠ WARNING

MAKE SURE THE UNIT IS IN A STABLE POSITION BEFORE PULLING THE STARTER HANDLE.

WHEN THE UNIT STARTS TO FIRE OR RUN, RELEASE THE THROTTLE CONTROL MOMENTARILY WITH YOUR RIGHT HAND AND RETURN YOUR LEFT HAND TO THE HANDLEBAR POSITION TO MAINTAIN CONTROL AND STABILITY OF THE UNIT WITH BOTH HANDS.

⚠ CAUTION

IF ENGINE FAILS TO START AFTER FOLLOWING STARTING PROCEDURES, PLEASE CONTACT OUR CUSTOMER SERVICE DEPARTMENT AT 800-345-6007.

STARTER ROPE CAN CAUSE AN UNANTICIPATED JERK TOWARDS ENGINE. PLEASE FOLLOW INSTRUCTIONS TO AVOID INJURY.

NEVER LEAVE ENGINE RUNNING WHILE UNATTENDED. TURN OFF AFTER EVERY USE.

NEVER CARRY CULTIVATOR FROM ONE LOCATION TO ANOTHER WHILE ENGINE IS RUNNING.

ALWAYS WEAR A PROTECTIVE HEARING DEVICE.

DO NOT START ENGINE IF FUEL IS SPILLED. WIPE OFF EXCESS FUEL AND ALLOW TO DRY.

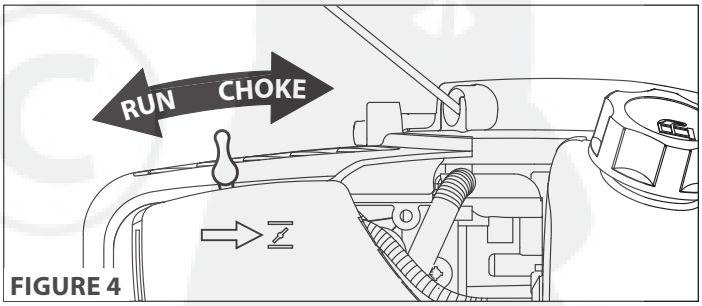


FIGURE 4

DO NOT attempt to start engine in the following ways:

- **DO NOT** use starting fluid.
- **DO NOT** spray flammable liquids or vapors into air cleaner, carburetor or spark plug chamber.
- **DO NOT** remove spark plug and attempt to start engine. Flammable fuel can spray out & ignite from a spark from spark plug.

TO STOP ENGINE:

Push the **ON/OFF** switch to the **OFF** position.

ADJUSTING WHEELS AND DRAG STAKE

The wheels on the MC440 can be adjusted to one of three positions. The **LOW** wheel position is used for transporting the cultivator across a smooth level surface while the engine is not running. The **HIGH** and **HIGHEST** wheel positions are used when cultivating in soil and help stabilize the unit when cultivating at different depths. **(SEE FIGURE 5)**

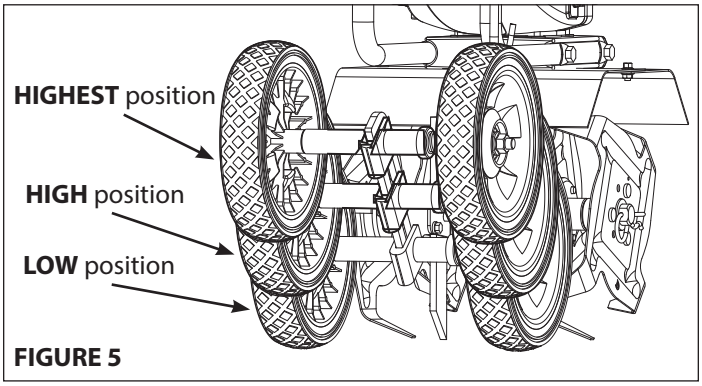


FIGURE 5

To adjust wheels up or down (SEE FIGURES 6 AND 7):

1. Pull the locking metal sleeve against the spring, away from the vertical guide until it releases from one of the three notched positions in the vertical guide.
2. Slide the wheel set up or down to the desired position, and release the locking metal sleeve until it locks into desired notch in the vertical guide.

The drag stake is used to help regulate cultivating depth and control the MC440 from leaping forward during operation. Resistance to forward motion is greatest when the drag stake is set in its lowest position allowing for deeper cultivation.

To adjust the drag stake (SEE FIGURE 7):

1. Pull the pin out of the drag stake mount hole.
2. Position the drag stake so the pointed tip is directed downward.
3. Insert the pin into the hole that achieves desired depth.

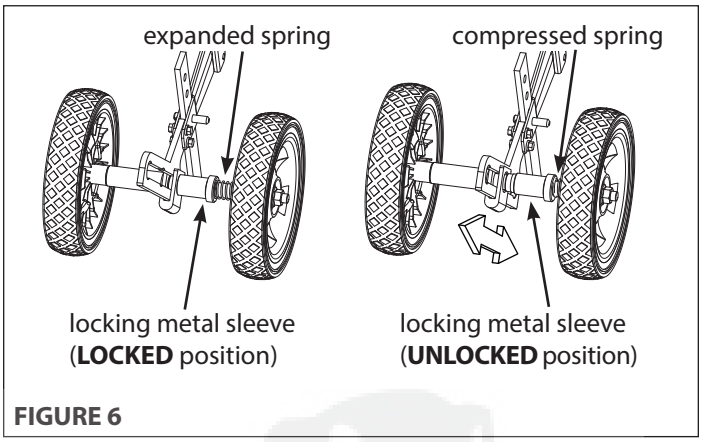


FIGURE 6

TINE REMOVAL AND INSTALLATION

To Remove Tines (SEE FIGURE 8)

1. Remove the hairpins from each end of the tine shaft.
2. Slide the four tines off the shaft.

To Install Tines

1. First slide the inside tines onto each end of the tine shaft. One inside tine is stamped with a **B** and the other is stamped with a **C**.
2. Slide the outside tine **A** and tine **D** onto each end of the shaft next. The tines should be installed in the correct order so that they are positioned left to right **A**, **B**, **C**, **D**, as viewed from the user's position on the MC440. Make sure that the hub collars on both the right and left pairs of tines face each other so that there is adequate spacing between the tine blades. **SEE FIGURE 8**
3. Insert the hairpins into the holes at each end of the tine shaft to lock the tines into place.

NOTE: Tines can be reversed so the pointed tip of the tines are directed forward - for more aggressive digging. In this arrangement, tines are positioned left to right D, C, B, A as viewed from the user's position

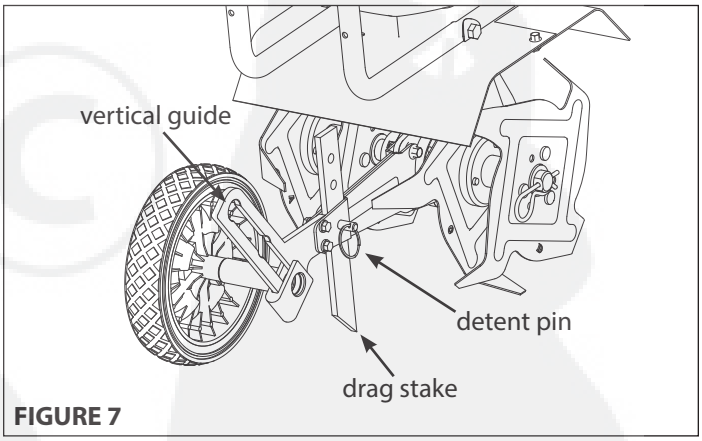


FIGURE 7

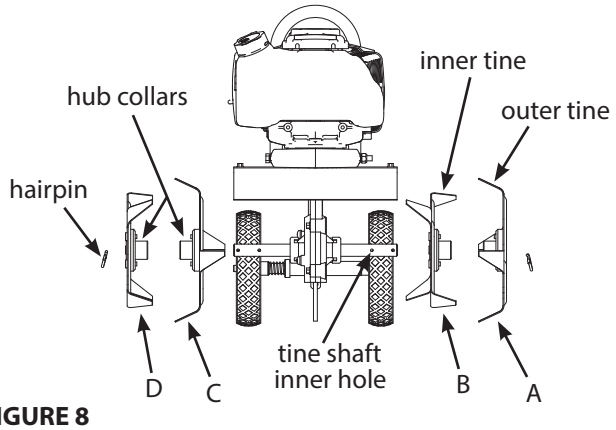


FIGURE 8

NOTE: To reduce cultivating width from 10" to 6", remove both outer tines and reinsert hairpins through the two inner holes on the tine shaft to secure both inner tines in place.

MAINTENANCE AND STORAGE

STEPS FOR WORKING ON EQUIPMENT

1. Flip the ON/OFF switch to the **OFF** position.
2. Replace or repair the part on the MC440.
3. Check all parts that were repaired, or removed during repair, that they are secure and fit correctly.

   NOTE: All repair parts must come from the factory. Never replace parts that are not specifically designed for the cultivator.

MC440 MAINTENANCE

1. The transmission case has grease installed at the factory. It is recommended that once a year the gear case be split by a qualified service professional and the grease level checked. Add a molylithium type grease only if level of grease is below top of the gears. **DO NOT OVERFILL.**
2. Keep all screws, nuts, and bolts tight.
3. For cold weather operation, store the unit in a cool environment. Transferring the unit from a cold to a warm place can cause the build up of harmful condensation.

⚠ CAUTION

PRACTICE SAFETY AT ALL TIMES. ENGINE MUST BE TURNED OFF AND ALLOWED TO COOL BEFORE ATTEMPTING ANY MAINTENANCE OR REPAIR.

TO PREVENT ACCIDENTAL STARTING:

ENGINE MUST BE TURNED OFF AND COOL BEFORE CHECKING AND ADJUSTING ENGINE OR EQUIPMENT.

TEMPERATURE OF MUFFLER AND NEARBY AREAS MAY EXCEED 150° F (65° C). AVOID THESE AREAS.

CHECK CULTIVATOR OFTEN FOR LOOSE NUTS AND BOLTS. KEEP THESE ITEMS TIGHTENED.

NEVER STORE ENGINE WITH FUEL IN THE TANK INSIDE A BUILDING. POTENTIAL SPARKS MAY BE PRESENT FOR IGNITION OF FUEL AND FUEL VAPORS.

AN ADULT ONLY MUST DO MAINTENANCE AND REPAIR ON ENGINE AND CULTIVATOR.

ENGINE MUST BE TURNED OFF AND COOL BEFORE ANY REPAIR OR MAINTENANCE CAN BE DONE.

ENGINE MAINTENANCE

Please read the maintenance schedule and observe these recommendations to extend the life of your engine.

Good maintenance is essential for safe, economical, and trouble-free operation. It will also help reduce air pollution. To help you properly care for your engine, the following pages include a maintenance schedule, routine inspection procedures, and simple maintenance procedures using basic hand tools. Other service tasks that are more difficult, or require special tools, are best handled by professionals and are normally performed by a technician or other qualified mechanic.

Maintenance, replacement or repair of the emissions control devices and systems may be performed by any non-road engine repair establishment or individuals. However, items must be serviced by an authorized dealer to obtain "no charge" emissions control service.

The maintenance schedule applies to normal operating conditions. If you operate your engine under unusual conditions, such as sustained high-load or high-temperature operation, or use in unusually wet or dusty conditions, consult your servicing dealer for recommendations applicable to your individual needs and use.

LUBRICATION

Choose engine oil that meets or surpasses the latest API service classification. For temperatures higher than 32º F, use SAE 30 or 10W-30 motor oil. Use SAE 5W-30 if temperatures are below 32º F.

OIL MAINTENANCE

After the first five hours of operating a new Viper engine the oil should be replaced, and every 50 hours of operating time thereafter. The oil should be changed every 25 hours if used under severe conditions, such as in high temperatures or under heavy loads. Check oil periodically; do not overfill!

CHANGING OIL

Be sure the engine is not operating and is located on a level surface before checking or refilling oil. Engine should be warm for easy removal of oil.

1. Flip the ON/OFF switch to the **OFF** position.
2. Unscrew oil drain screw and empty oil into suitable oil container. **(SEE FIGURE 3 on PAGE 10)** Dispose of oil properly.
3. Reinsert drain screw and remove oil dipstick.
4. Fill with appropriate oil to "FULL" or top line of dipstick; otherwise to top thread of oil fill hole.
5. Reinsert dipstick or oil fill cap and tighten.

MAINTENANCE SCHEDULE

Maintenance Item		Every 8 hours (daily)	Every 50 hours or seasonally	Every 100 hours or seasonally	Each Year
Clean Engine and Check Bolts & Nuts		X			
Engine Oil (See Lubrication section)	Check	X			
	Change*	(initial 5 hours)	X		
Air Filter (See Air Filter section)	Check	X		X	
	Clean**		(20 hours)		
	Replace				X
Spark Plug (0.6mm) (See Spark Plug section)	Check/Adjust		X		
	Replace				X
Fuel Filter (See Fuel Filter section)	Clean***		X		
	Replace			X	
Gas Tank	Clean***			X	
Valve Clearance - Intake: 0.15mm (0.006") Exhaust: 0.20mm (0.008")	Check/Adjust				X

* Perform initial oil change after first 5 hours of operation, then every 50 hours or every season

** Service more frequently under dusty conditions

*** These items should only be performed by a mechanically proficient person or by the servicing dealer

SPARK PLUG

The recommended spark plug is a NGK CMR6A. For maintenance and care of the spark plug go online to www.getearthquake.com for instructions or call Earthquake customer service.

CARBURETOR

Never tamper with factory setting of the carburetor.

COOLING FINS

Cooling fins, air inlets and linkages must be free from any debris before each use.

AIR FILTER

Never run engine without air cleaner properly installed. Added wear and engine failure may occur if air cleaner is not installed on engine.

Service air cleaner every 3 months or after 20 hours of operation. Clean filter daily in extremely dusty conditions.

Steps for Replacing and Cleaning Air Filter (Block Style Foam Filter)

1. Before removing the air filter cover, move the choke lever to the **CHOKE** position.
2. To remove air filter cover, unscrew the cover bolt with a screw driver and gently pop out the front latch tab. The cover then can be slid off the back latch tabs and away from the engine. **SEE FIGURE 9**
3. Remove the foam filter element and replace with a new oiled filter **(SEE FIGURE 10)**, or clean the original foam filter with warm water and mild soap. Remember to thoroughly oil the foam filter with 30 or 40 weight motor oil and squeeze out any excess oil before reinstalling it. Make sure to press the foam filter evenly into place to ensure that the foam is fully seated into its sealed position.
4. Replace the air filter cover by first connecting the back latch tabs then swinging the cover, making sure the foam filter block stays fully seated and in its proper position, and connect the front latch tab so that it is secured into place.
5. Screw the cover bolt back into place. Check that the cover is securely attached by pulling slightly on the cover. If the cover doesn't move when pulled, it is secure.

⚠ CAUTION

TO AVOID INJURY OR DEATH, NEVER SIPHON FUEL BY MOUTH.

NEVER STORE CULTIVATOR WITH FUEL IN THE FUEL TANK INSIDE AN ENCLOSED AREA OR BUILDING.

⚠ IMPORTANT

NEVER TWIST AIR FILTERS WHEN CLEANING. ALWAYS PRESS.

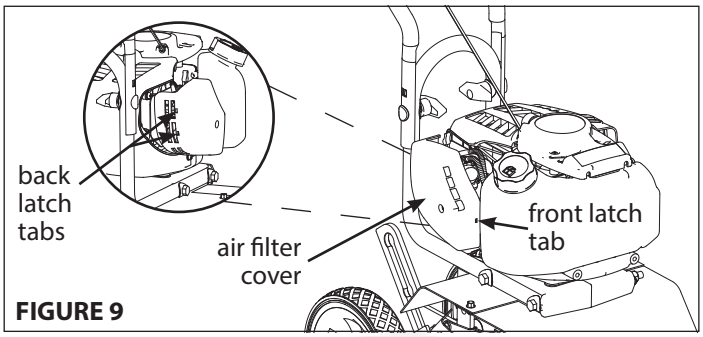


FIGURE 9

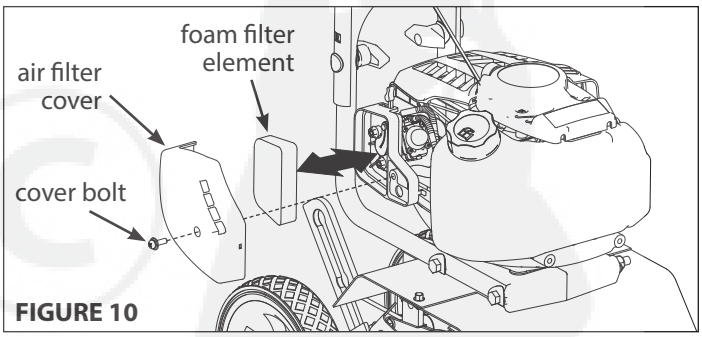


FIGURE 10

TRANSPORTING YOUR MC440

1. After using the cultivator, and before transporting it in a truck bed, check that the gas cap is screwed on (clockwise) tightly. The gas cap will not leak during transporting if gas cap is tight. Never transport engine inside an enclosed space within a vehicle. Fuel or fuel vapors may ignite causing serious injury or death.
2. If fuel is present in the fuel tank, transport in an open vehicle in an upright position.
3. If an enclosed vehicle must be used, remove gas into an approved red fuel container. DO NOT siphon by mouth.
4. Wipe away any spilled fuel from engine and cultivator. Allow to dry.
5. Run engine to use up the fuel in the carburetor and fuel tank. Always run engine in a well ventilated area.
6. Gas cap should be screwed down tightly before transporting your MC440 in a vehicle.

LONG-TERM STORAGE

If your MC440 will not be used for more than one month, prepare it for long-term storage.

Steps for Long-Term Storage

1. Remove the remainder of the fuel from the gas tank into an approved fuel container.
2. Store 4-cycle cultivator engine in a vertical position.
3. Remove all debris from cultivator tines and engine.

TROUBLESHOOTING AND REPAIR

At Earthquake, we build quality and durability into the design of our products; but no amount of careful design by us, and careful maintenance by you, can guarantee a repair-free life for your Earthquake cultivator. Most repairs will be minor, and easily fixed by following the suggestions in the troubleshooting guide in this section.

The guide will help you pinpoint the causes of common problems and identify remedies.

For more complicated repairs, you may want to rely on your retailer, an authorized service center or Earthquake. Earthquake will make the necessary repairs if a service center is not available. A parts breakdown is located toward the end of this manual.

We will always be glad to answer any questions you have, or help you find suitable assistance. To order parts or inquire about warranty, call or e-mail us using the contact information found in this section.

ORDERING REPLACEMENT PARTS

Parts can be obtained from the store where the MC440 was purchased or direct from the factory. To order parts visit www.getearthquake.com or call 1-800-345-6007.

For other general questions, you can e-mail us at info@getearthquake.com.

Please include the following information with your order:

1) Part numbers
2) Part description
3) Quantity
4) Model number and serial number

SPARE PARTS

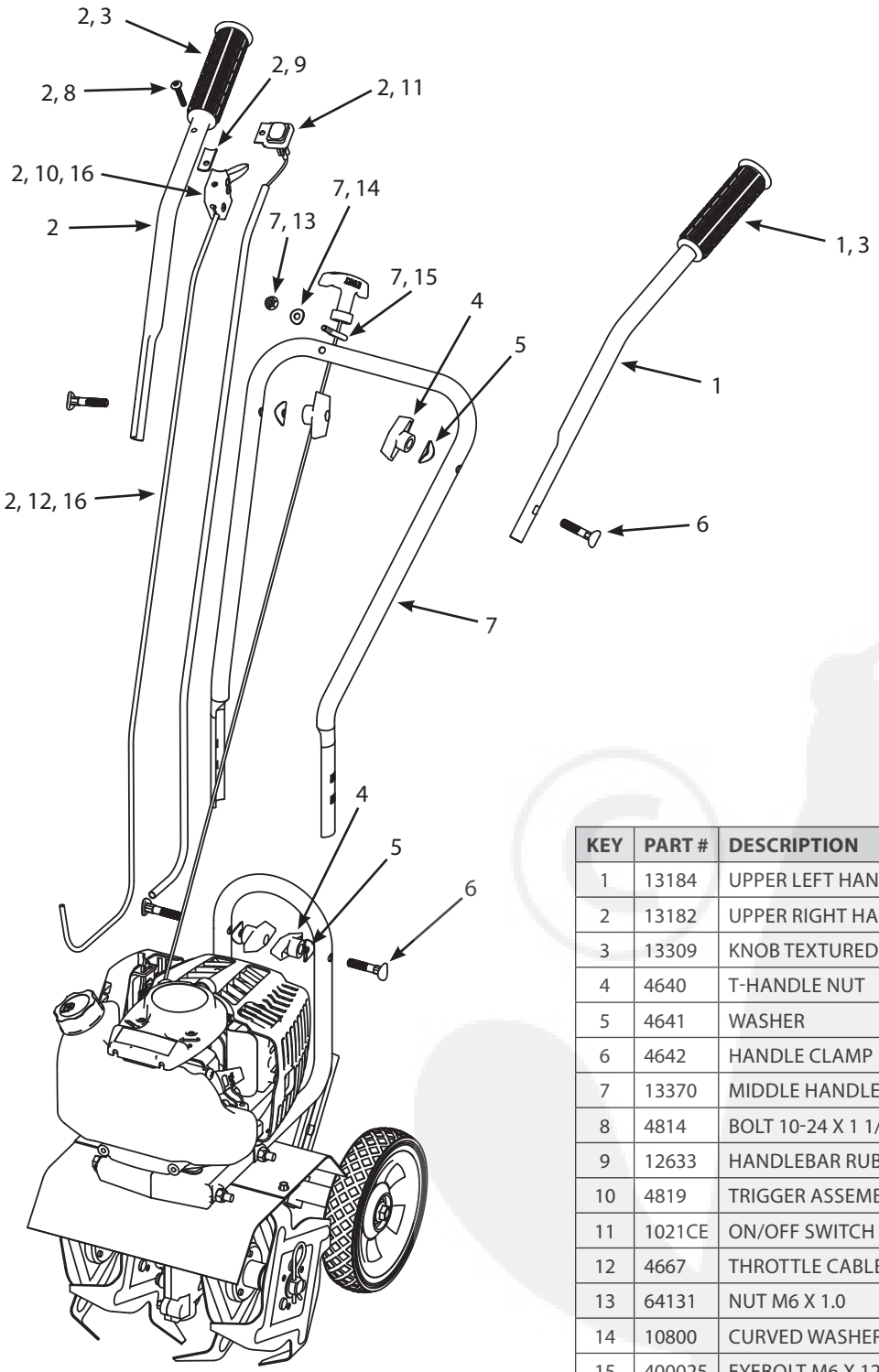
Only use approved Earthquake spares.

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	REMEDY/ACTION
Engine will not start	1. Power switch in off position	1. Flip switch to ON position
	2. Spark plug wire disconnected	2. Connect spark plug wire to spark plug
	3. Out of fuel	3. Refuel
	4. Spark plug wet, faulty or improperly gapped	4. Clean, replace or gap spark plug
	5. Fuel line hose not positioned in bottom of gas tank	5. Push fuel line down into fuel in gas tank
Engine runs rough, floods during operation	1. Dirty air filter	1. Clean or replace air filter
	2. Choke partially engaged	2. Turn off choke
	3. Carburetor out of adjustment	3. Call factory
Engine is hard to start	1. Stale fuel	1. Drain old fuel and replace with fresh. Use gas stabilizer at end of season
	2. Spark plug wire loose	2. Make sure spark wire is securely attached to spark plug
	3. Dirty carburetor	3. Clean carburetor, use gas stabilizer, new gas can
Engine misses or lacks power	1. Clogged gas tank	1. Remove and clean gas tank
	2. Clogged air filter	2. Clean or replace air filter
	3. Carburetor out of adjustment or bad	3. Call factory
	4. Spark plug wet, faulty or improperly gapped	4. Clean, replace or gap spark plug
Engine runs, then quits	1. Gas cap not venting	1. Clean or replace gas cap, check vent
	2. Plugged fuel filter	2. Clean or replace fuel filter
	3. Carburetor out of adjustment or bad	3. Call factory
Engine revs too high	1. Carburetor out of adjustment	1. Call factory
Tines turn at idle	1. Idle speed too high	1. Adjust idle speed lower
	2. Broken clutch spring	2. Replace spring

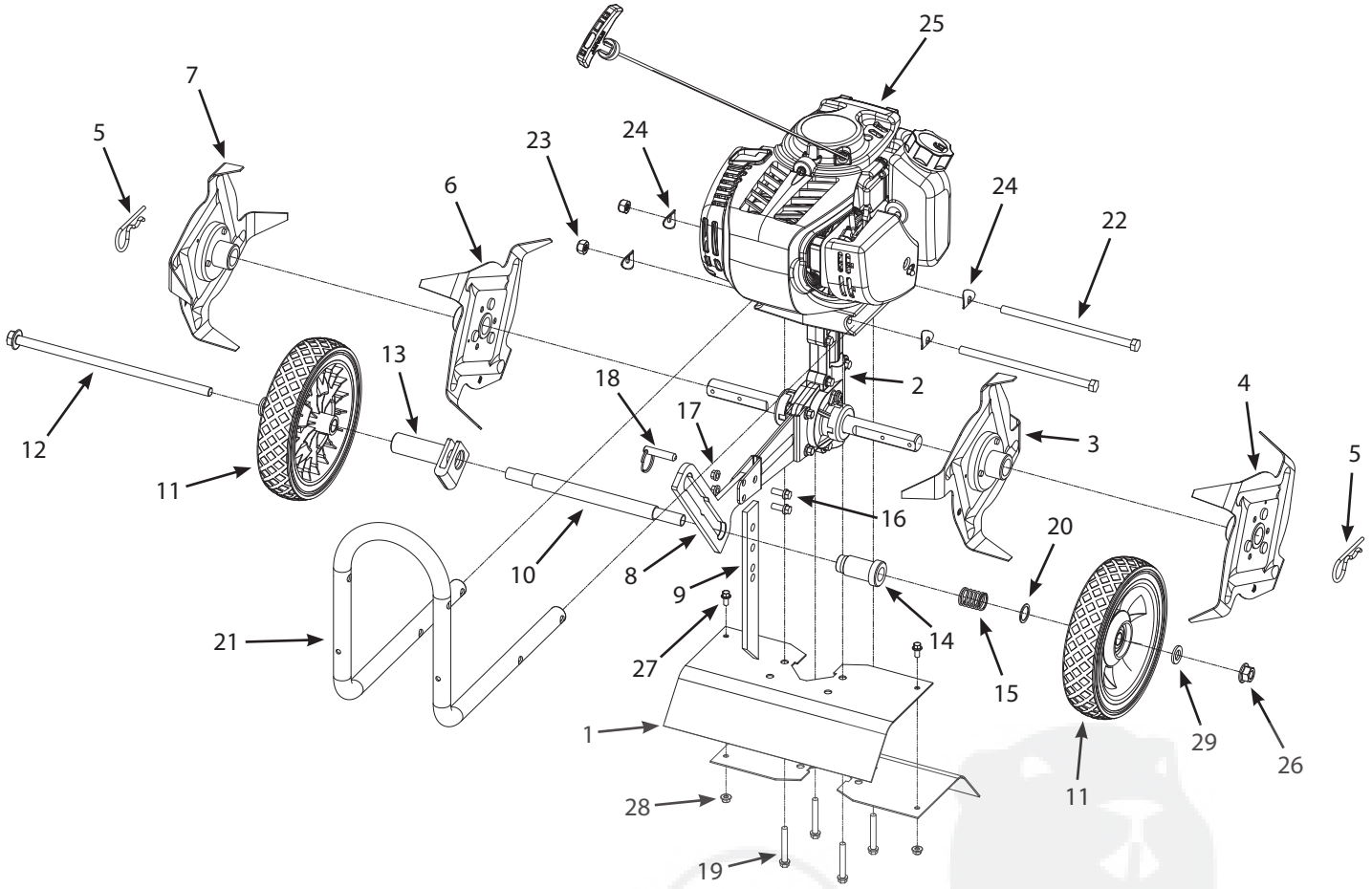
Contact Earthquake customer service at 800-345-6007 if additional assistance is needed.

HANDLEBAR PARTS EXPLOSION



KEY	PART #	DESCRIPTION	QTY.
1	13184	UPPER LEFT HANDLEBAR ASSEMBLY GREY	1
2	13182	UPPER RIGHT HANDLEBAR ASSEMBLY GREY	1
3	13309	KNOB TEXTURED HANDLE GRIP	2
4	4640	T-HANDLE NUT	4
5	4641	WASHER	4
6	4642	HANDLE CLAMP BOLT	4
7	13370	MIDDLE HANDLEBAR ASSEMBLY GREY	1
8	4814	BOLT 10-24 X 1 1/4	1
9	12633	HANDLEBAR RUBBER PAD 15MM X 28.5MM	1
10	4819	TRIGGER ASSEMBLY LONG	1
11	1021CE	ON/OFF SWITCH WIRE ASSY	1
12	4667	THROTTLE CABLE	1
13	64131	NUT M6 X 1.0	1
14	10800	CURVED WASHER M6	1
15	400025	EYEBOLT M6 X 12 X 25	1
16	13804	THROTTLE TRIGGER KIT WITH CABLE	1

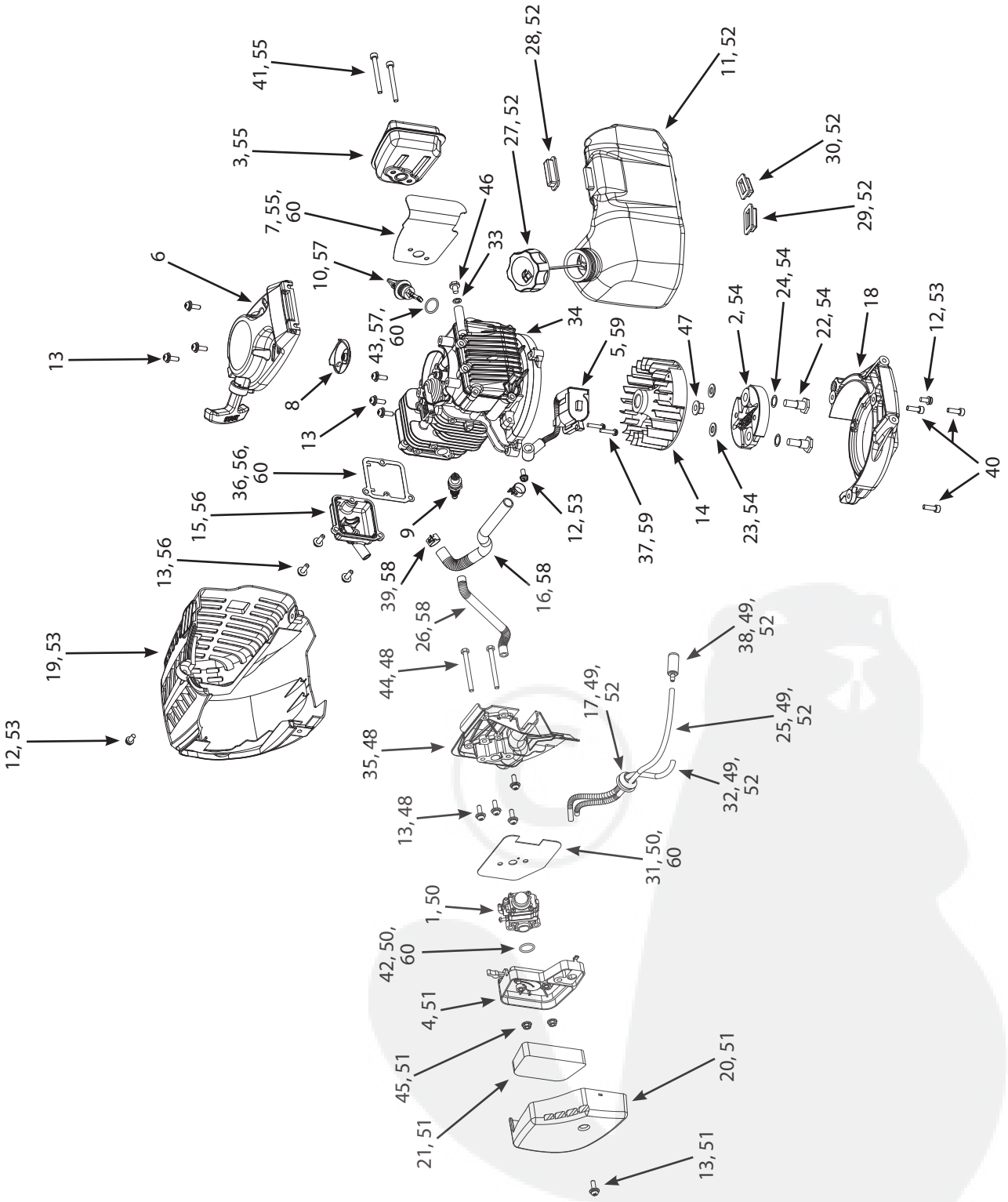
HOOD & TINES PARTS EXPLOSION



KEY	PART #	DESCRIPTION	QTY.
1	46146	TINE SHIELD	2
2	46138	TRANSMISSION ASSEMBLY	1
3	4602	TINE -C- ASSEMBLY	1
4	4604	TINE -D- ASSEMBLY	1
5	4652	HAIRPIN 5/8-3/4	2
6	4603	TINE -B- ASSEMBLY	1
7	4601	TINE -A- ASSEMBLY	1
8	4673	WHEEL HOLDER	1
9	4600	DRAG STAKE	1
10	4674	TUBE WHEEL AXLE	1
11	13189	WHEEL 180 X 38MM DIAMOND TREAD GREY HUB	2
12	4687	BOLT M10 X 1.5 X 225 MM	1
13	4678	TUBE WHEEL GUIDE	1
14	4684	TUBE WHEEL LOCK	1
15	4685	SPRING WHEEL LOCK	1

KEY	PART #	DESCRIPTION	QTY.
16	46142	BOLT M6 X 1.0 X 20	2
17	4650	NUT M6 X 1.0	2
18	46145	PIN QUICK-RELEASE M8 X 25	1
19	4625	BOLT M6 X 1.0 X 42 FLANGE	4
20	13230	WASHER 21MM X 16MM X 1MM	1
21	12811	LOWER HANDLEBAR	1
22	46141	BOLT M8 X 1.25 X 160MM	2
23	400023	NUT M8 NYLOCK	2
24	4641	CURVED WASHER M8	4
25	11614	ENGINE 40CC 4 CYCLE OHV	1
26	13048	NUT M10 X 1.5	1
27	176	BOLT M5 X 0.8 X 10	2
28	400020	NUT M5 X 0.8 TOPLCK	2
29	2431	FLAT WASHER M10 X 20 X 2	2

ENGINE PARTS EXPLOSION



ENGINE PARTS LIST

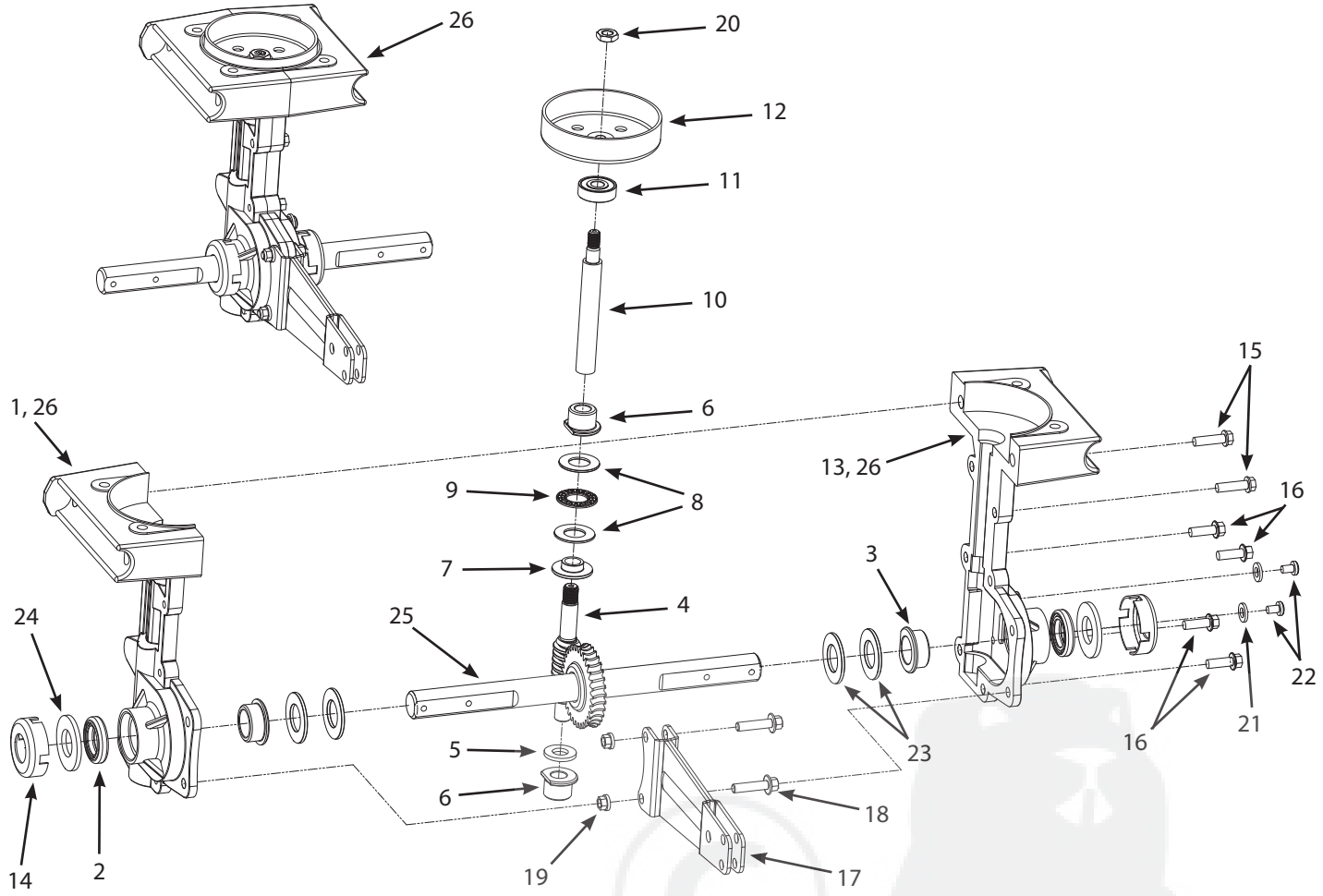
KEY NO.	PART NO.	DESCRIPTION	QTY.
1	13192	CARBURETOR	1
2	300413	ASSY CENTRIFUGAL CLUTCH ROTOR VIPER	1
3	13200*	MUFFLER	1
4	13238	INTAKE BASE ASSEMBLY	1
5	13242*	IGNITION COIL	1
6	13194	RECOIL ASSEMBLY	1
7	13202*	HEAT SHIELD MUFFLER	1
8	13244	RECOIL CLUTCH	1
9	13243	SPARK PLUG NGK CMR6A	1
10	13196*	OIL CAP	1
11	13195	GAS TANK	1
12	300471	BOLT WITH WASHER M5 X 0.8 X 12MM	3
13	10887	BOLT M5 X 0.8 X 16MM PPH W/ WASHER	14
14	13241	FLYWHEEL	1
15	13321*	VALVE COVER	1
16	13317*	HOSE VALVE COVER BREATHER	1
17	300494	GROMMET FUEL TANK TWO HOLE	1
18	13239	MOUNT RING AND SHROUD	1
19	13193*	SHROUD ENGINE	1
20	13197	AIR FILTER COVER	1
21	13198	AIR FILTER	1
22	300450	BOLT M8 X 1.25 X 25MM SHOULDER 10MM	2
23	300462	WASHER 15.8 X 8.4 X 1.6MM	2
24	300449	WASHER M8 SPRING	2
25	13306	FUEL LINE CUT TO 275MM	1
26	13318*	CRANKCASE BREATHER	1
27	13352	GAS CAP COMPLETE 4 CYCLE EPA SELF VENT	1
28	13295	RUBBER GAS TANK HOLDER TOP	1
29	13296	RUBBER TANK HOLDER BOTTOM LEFT	1
30	13297	RUBBER TANK HOLDER BOTTOM RIGHT	1
31	13299*	CARBURETOR GASKET	1
32	13307	FUEL LINE CUT TO 195MM	1
33	13320	WASHER M6 X 10MM X 1MM	1
34	13322	ENGINE BLOCK	1
35	13328	CARBURETOR INSULATOR	1
36	13324*	GASKET VALVE COVER	1
37	13325	BOLT M4 X 0.7 X 20MM PPH WITH WASHER	2
38	3004103	FUEL FILTER POROUS PLASTIC ALUMINUM CORE	1
39	13395*	HOSE CLAMP 13.5MM	2
40	W1200123	BOLT M5 X 0.8 X 16	3
41	13181	BOLT M5 X 0.8 X 50MM	2
42	13330*	O-RING 15 X 18.6 X 1.8MM	1
43	13392*	O-RING 15.6 X 19.16 X 1.78MM	1
44	13332	BOLT M5 X 0.8 X 55	2
45	400020	NUT M5 X 0.8 TOPLCK HHF GR 8.8	2
46	13449	BOLT M6 X 1.0 X 8MM X 12MM	1
47	300337	NUT M8 X 1.25MM	1

**** Available as Kit only.***

ENGINE PART KITS LIST

KEY NO.	PART NO.	DESCRIPTION	QTY.
48	13390	CARBURETOR BRACKET KIT	1
49	13308	FUEL LINES KIT	1
50	13329	CARBURETOR KIT	1
51	13363	AIR FILTER KIT	1
52	13388	GAS TANK KIT WITH FUEL LINE	1
53	13389	ENGINE SHROUD KIT	1
54	11235	CLUTCH KIT 76.76MM OD VIPER	1
55	13391	MUFFLER KIT	1
56	13298	VALVE COVER KIT	1
57	13393	OIL CAP KIT WITH O-RING	1
58	13394	BREATHER HOSES KIT	1
59	13400	IGNITION COIL KIT	1
60	13066	GASKETS KIT	1

TRANSMISSION PARTS EXPLOSION



KEY	PART #	DESCRIPTION	QTY.
1	46136*	MC LOWER TRANSMISSION CASTING LEFT	1
2	4646	SEAL SHAFT 19MM SHAFT 32MM BORE	2
3	4645	BUSHING M19 ID X 25.5OD D-PROFILE FLANGE	2
4	4613	WORM	1
5	4616	SPACER BUSHING 22 X 11.05 X 2.413MM	1
6	4614	BUSHING M11 ID X 19OD D-PROFILE FLANGED	2
7	4617	THRUST REDUCER BEARING M11 X 15OD FLANGE	1
8	4618	THRUST WASHER 28 X 15 X 1.5MM	2
9	4619	THRUST BEARING 28 X 15 X 2MM	1
10	46137	DRIVE SHAFT	1
11	4623	BALL BEARING 9MM X 26MM DOUBLE SEALED	1
12	300414	CLUTCH DRUM ASSEMBLY 77.7MM	1
13	46135*	MC LOWER TRANSMISSION CASTING RIGHT	1

KEY	PART #	DESCRIPTION	QTY.
14	46144	DUST CAP	2
15	4648	BOLT M6 X 1.0 X 22 FLANGE	2
16	4647	BOLT M6 X 1.0 X 18 FLANGE	4
17	4633	WHEEL AND DRAG MOUNT	1
18	4649	BOLT M6 X 1.0 X 25	2
19	4650	NUT M6 X 1.0	2
20	4620	NUT M8 X 1.25	1
21	W1200117	FLAT WASHER M6 X 13 X 1.75	2
22	13447	BOLT M6 X 1.0 X 8MM	2
23	4610	SHIM TINE SHAFT 35MM X 19MM X 2.2MM	4
24	4606	FIBER WASHER 38 X 19 X 3.2MM	2
25	4651	SHAFT TINE ASSEMBLY	1
26	46138	TRANSMISSION ASSEMBLY	1

**** Available as Assembly or Kit Only***

EC DECLARATION OF CONFORMITY

CE

Name and Address of the manufacturer:	Ardisam Manufacturing Inc. 1690 Elm Street, Cumberland, WI U.S.A 54829
Name and Address of person authorised to compile the technical file:	Mr Andrew Clark, Designplus (Eng.) Ltd., 10 Chapel Lane, West Bergholt, Colchester, Essex, CO6 3EG. United Kingdom.
Description of Equipment:	Front Tine Cultivator, pedestrian controlled, no drive wheel(s)
Model / Type:	MC440
Serial No.:	*00000000000000000000000 - 50000000000000000000000*
Directives / Conformity Assessment Procedures:	Machinery Directive (2006/42/EC) / Annex VIII EMC Directive (2004/108/EC) / Art.10.1
Technical standards and specifications:	EN 709: 1997 - Agricultural & forestry machinery – Pedestrian controlled tractors with mounted rotary cultivators, motor hoes, motor hoes with drive wheel(s) - Safety
Declaration:	**The person signing below declares that the above named equipment fulfils all the relevant provisions of the stated directives.**
Place of Declaration & Date:	Ardisam Inc., Cumberland, WI. USA December 2012
Signed:	
Printed Name of Authorised Signatory:	Robert Ruppel
Position in Company:	Director of Engineering

EK43 BORDER-EDGER KIT INSTALLATION (OPTIONAL ACCESSORY)

The Border-Edger Kit is a useful tool for making clean cuts in the lawn along the borders of gardens, flower beds, walkways, and driveways for a well manicured look. To install the Border-Edger Kit, do the following:

1. Flip the ON/OFF switch to the **OFF** position.
2. Remove the hairpins (46134) from both sides of the tine shaft (4651). **SEE FIGURE 11**
3. Remove the cultivating tines from the shaft, remembering which direction they are facing.
4. Put the tines in a safe place and save the hairpins (4652), they will be used on the Border-Edger Kit.
5. Slide the Border-Edger Tine (46130) on either side of the tine shaft. Make sure that the hub collar of the border edger tine faces outward, away from the transmission of the MC440.
6. Put (1) hairpin, flat side facing edger attachment, through the shaft hole that is further down the shaft from the hole where the cultivating tines were placed.
7. Slide the Border-Edger Wheel (46131) on the opposite tine shaft.
8. Insert the remaining hairpin, flat side facing wheel, through the hole next to the wheel at the end of the tine shaft.
9. Before using the Border-Edger Kit, remove the drag stake from the unit.
10. Set the cultivator wheels to the **HIGHEST** position.

⚠ CAUTION

BE AWARE THAT THE CULTIVATOR COULD UNEXPECTEDLY BOUNCE UPWARD, OR JUMP FORWARD IF THE TINES STRIKE CONCRETE, PAVEMENT, OR OTHER HARD SURFACES OR HARD OBSTACLES BURIED UNDER GROUND.

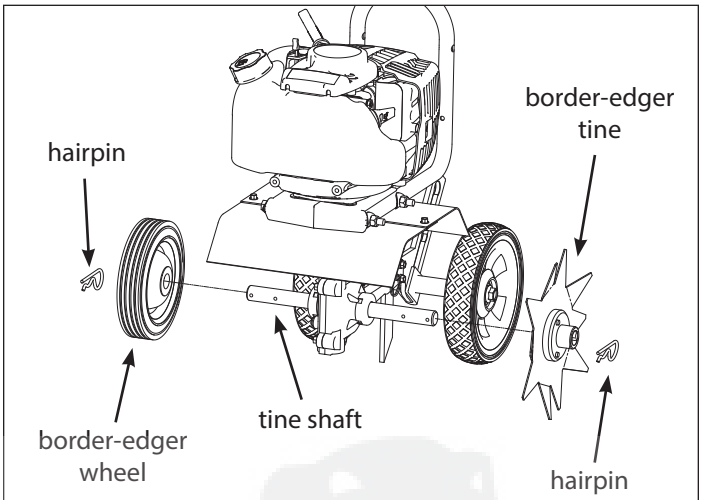


FIGURE 11

DK43 DETHATCHER KIT INSTALLATION (OPTIONAL ACCESSORY)

The Dethatcher Kit is very effective for lifting away the excessive matted layers of thatch that can prevent moisture, oxygen and nutrients from penetrating the soil and can harbor disease and insects. Use in Spring, Summer, and Fall to bring life and color back to your lawn.

1. Flip the ON/OFF switch to the **OFF** position. Remove the cultivating tines and the drag stake (SEE PAGE 12).
2. Unscrew mount bolts/nuts that connect the wheel bracket to the drag stake mount and set wheel bracket aside. **SEE FIGURE 13**
3. Slide dethatcher shield over the unit's tine shield from the rear of the unit and secure using bolts (176) and nuts (400020). **SEE FIGURE 12**
3. Secure the lower part of the dethatcher shield to the drag stake mount using the detent pin (46145).
4. Install wheel extension plate (4676) using additional bolts (46142) and nuts (4650). Make sure wheel extension is facing the right direction. (The side, with the two holes flush to the edge, connects to the drag stake mount) **SEE FIGURE 13**
    a. With the mount bolts/nuts attach the wheel extension to the drag stake mount.
    b. Then with the bracket bolts/nuts (included with the Dethatcher Kit) attach the wheel bracket to the wheel extension.
5. Slide the Left and Right Dethatcher Assemblies onto the tine shaft making sure the Right Assembly is installed on the right side and Left Assembly is installed on the left side as defined from the user's position. **SEE FIGURE 14**
6. Secure dethatcher assemblies using the hairpins (4652). The hairpins go through the inner holes of the tine shaft.

NOTE: The drag stake should not be used when using the dethatcher kit.

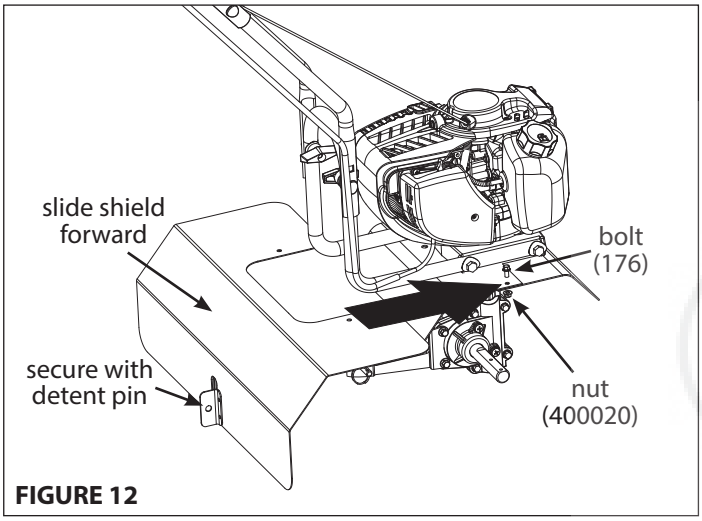


FIGURE 12

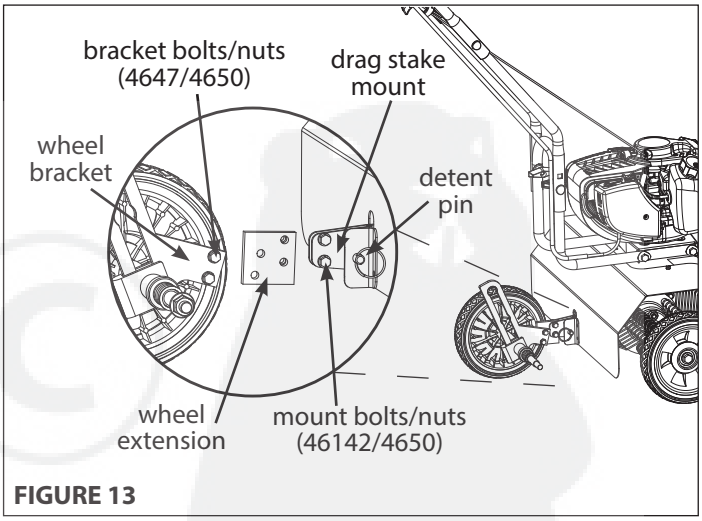


FIGURE 13

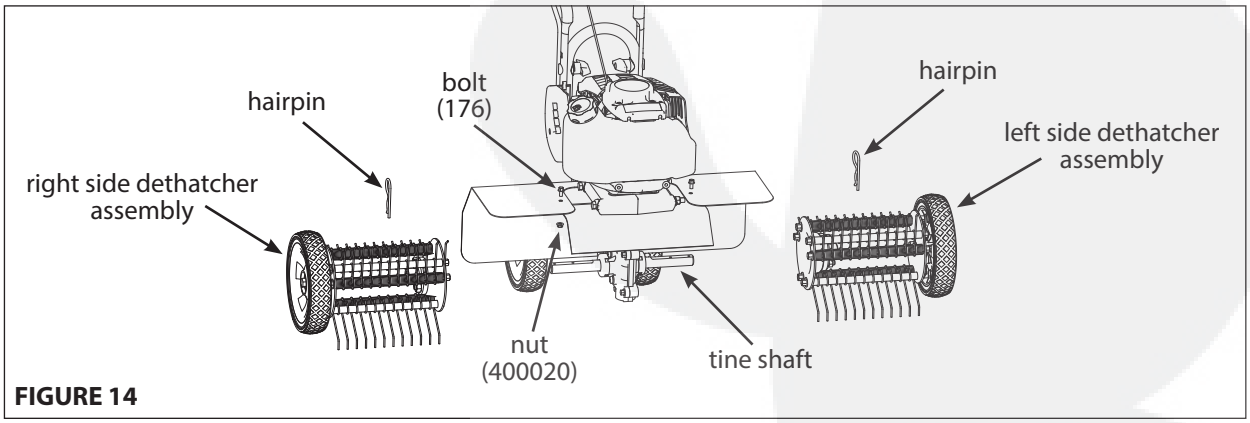


FIGURE 14

Earthquake™

MC440 4-CYCLE CULTIVATOR

Warranty Terms and Conditions

PRODUCT WARRANTY: 1-YEAR LIMITED WARRANTY

Ardisam, Inc., a manufacturing company, warrants this **EARTHQUAKE 4-CYCLE CULTIVATOR** to be free from defects in the material or workmanship for a period of one year from the date of purchase. During the one-year warranty of this product, Ardisam will furnish, at their discretion, parts and labor to correct any defect caused by faulty material or workmanship. Any unit used in a commercial application is covered for a period of 90 days after purchase. This warranty applies to the original owner with a proof of purchase and is not transferable. For the warranty to be valid, the product must be registered online, or the warranty card must be filled out and received by Ardisam, Inc., within 30 days of purchase.

ENGINE WARRANTY: 2-YEAR LIMITED EMISSIONS CONTROL WARRANTY
(SEE EXPLANATION OF EMISSIONS CONTROL WARRANTY PROVISIONS FOR DETAILS)

Ardisam, Inc., a manufacturing company warrants its Viper® Engines under a two-year limited emissions control warranty to be free from defects in materials and workmanship for the service life of the product not to exceed twenty-four consecutive months from the date of purchase for consumer applications.

*These warranties apply only to products which have not been subjected to negligent use, misuse, alteration, accident, unauthorized parts, failure to use proper fuel and oil, or if repairs have been performed at non-authorized service centers. These warranties supersede all other warranties either expressed or implied and all other obligations or liabilities on our part. Ardisam, does not assume, and does not authorize any other person to assume for us, any liability in connection with the sale of our products. **To be at "No Charge," warranty work must be sent directly to Ardisam, Inc. or one of our authorized service centers and performed by them**. To obtain warranty service and/or replacement instructions, contact our customer service department. If you choose to ship your product to Ardisam for warranty repair, you must first have prior approval from Ardisam by calling our customer service department for a return material authorization number (RMA#). Under these circumstances, all items must be shipped prepaid. Ardisam will at no charge, repair or replace, at their discretion, any defective part which falls under the conditions stated above. Ardisam retains the right to change models, specifications and price without notice.

EARTHQUAKE™
A Division of Ardisam, Inc.
1160 Eighth Avenue; P.O. Box 666
Cumberland, Wisconsin 54829
800-345-6007 · Fax (715) 822-4180
E-mail: info@getearthquake.com

Explanation of Emissions Control

Warranty Provisions

Viper® Engines are designed, built and equipped to meet all EPA requirements. It warrants that it is free from defects in material and workmanship that could cause failure to the warranted part; and that it is identical in all material respects to the engine described in the manufacturer's application for certification. When a warrantable condition exists, Ardisam will repair your engine at no cost to you, including parts and labor. The engine emissions label will indicate certification information. Purchasers located more than 100 miles from a Viper® authorized repair center in need of warrantable repair should contact customer service. If it is determined that warranted repair is indeed necessary, Ardisam, Inc., will cover the cost of shipping to an authorized Viper® repair center. All such requests must first be pre-approved by customer service prior to shipping.

Listed below are the parts covered by the emissions control systems warranty. Some parts listed below may require scheduled maintenance and are warranted up to the first scheduled replacement point for that part. See maintenance schedule in Maintenance and Storage section of manual for more details. Coverage under this warranty includes only the parts listed below (the emission and evaporation control systems) if so equipped:

- Air Filter Assembly (only to the first scheduled replacement point)
- Fuel Filter (only to the first scheduled replacement point)
- Carburetor
- Fuel Lines, Fuel Line Fittings and Clamps
- Fuel Metering Valve (if equipped)
- Evaporative System (if equipped)
  - Canister (if equipped)
  - Canister filter (if equipped)
  - Vapor hose (if equipped)
  - Orifice connector (if equipped)
  - Fuel tank
  - Fuel cap
  - Primer bulb canister (if equipped)
- Spark Plugs
- Magneto Ignition System
- Muffler Assembly

LIMITATIONS

The Emission Control Systems Warranty shall not cover any of the following:

a) Repair or replacement required because of misuse or neglect, improper maintenance, repairs improperly performed or replacements not conforming to Ardisam, Inc., specifications that adversely affect performance and/or durability and alterations or modifications not recommended or approved in writing by Ardisam, Inc.

b) Replacement of parts and other services and adjustments necessary for required maintenance at or after the first scheduled replacement point;

c) Consequential damages such as loss of time, inconvenience, loss of use of the engine or equipment, etc.

d) Diagnosis and inspection fees that do not result in eligible warranty service being performed; and

e) Any add-on or modified part, or malfunction of authorized parts due to the use of add-on or modified parts.

These items will be covered for a period of **two years** from the date of the original purchase. Viper warrants that: the components are designed, built and equipped so as to conform with all applicable regulations adopted by the EPA; that they are free from defects in material and workmanship that could cause failure to the engine or other; and that the components used are identical in all material respects to the engine described in the manufacturer's application for certification. The warranty period begins on the date the engine is originally purchased.

MAINTENANCE AND REPAIR REQUIREMENTS

The owner is responsible for the proper use and maintenance of the engine. Ardisam, Inc. recommends that all receipts and records covering the performance of regular maintenance be retained in case questions arise. If the engine is resold during the warranty period, the maintenance records should be transferred to each subsequent owner. Ardisam, Inc. reserves the right to deny warranty coverage if the engine has not been properly maintained; however, Ardisam, Inc. may not deny warranty repairs solely because of failure to keep maintenance records.

Normal maintenance replacement or repair of emission control devices and systems may be performed by any repair establishment or individuals; however, warranty repairs must be performed by an Ardisam authorized service center. Any replacement parts or service that is equivalent in performance and durability may be used in non-warranty maintenance or repairs, and shall not reduce the warranty obligations of the engine manufacturer.

The warranty on emissions-related parts is as follows:

- Any warranted part that is not scheduled for replacement as required maintenance in the owner's manual supplied, is warranted for the warranty period stated above. If any such part fails during the period of warranty coverage, that part will be repaired or replaced at no charge to the owner. Any such part repaired or replaced under the warranty will be warranted for the remaining warranty period.
- Any warranted part that is scheduled only for regular inspection in the owner's manual supplied, is warranted for the warranty period. Any such part repaired or replaced under warranty will be warranted for the remaining warranty period.
- Any warranted part that is scheduled for replacement as required maintenance in the owner's manual supplied, is warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part will be repaired or replaced at no charge to the owner. Any such part repaired or replaced under warranty will be warranted for the remainder of the period prior to the first scheduled replacement point for the part.
- Add on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any nonexempted add on or modified parts by the owner will be grounds for disallowing a warranty claim. The manufacturer will not be liable to warrant failures of warranted parts caused by the use of a nonexempted add on or modified part.

Earthquake™, Division of Ardisam, Inc.
1160 8th Avenue, PO Box 666
Cumberland, WI 54829
800-345-6007 | Fax 715-822-2223
E-mail: info@getearthquake.com

All weights, specifications and features are approximate and are subject to change without notice. Due to continuous product improvements, product images may not be exact. Items used for props not included. Some assembly may be required.